



## Energy Efficiency and Design-Build Services

Industrial energy consumption and environmental performance have never been more closely linked than they are today. To help forge that link, ALTECH provides complete services in energy and environmental consulting.

ALTECH's team of experts understands the relationship between the production process and energy reduction, and specializes in providing innovative, cost-effective solutions. ALTECH's philosophy is that energy and environmental issues must be practically integrated with the business and operations of the company if solutions are to be successful.

### ***In Plant Assessments***

Complete energy audits and evaluations of energy use and efficiency opportunities for both electrical and fuel-based savings (natural gas, fuel oils and alternative fuels). Focused optimization studies for efficiency improvements including:

- **Boiler, steam and hot water system evaluations** including efficiency improvements, boiler tune-ups, waste heat recovery, etc.;
- **Refrigeration and cooling system** improvements including load balancing and streamlining of distribution of cooling capacity;
- **Air compressor** balancing and optimization;
- **Power factor and load factor** improvements;
- Plant **Air Balancing** and **HVAC** efficiencies including assessment of air quality; Electrical and gas **metering studies**, especially to determine issues with power quality; and
- Design and installation of **monitoring equipment** and **software** to produce reports and respond with production or operational changes.

### ***Design/Build Energy Upgrades***

- Scoping and assessment of implementation requirements for energy upgrades including conceptual design and capital requirements.
- Detailed engineering for installation/integration of capital projects.
- Detailed design and commissioning of co-generation projects including turbines, waste heat recovery, bio-gas collection, etc.
- Construction management, start-up and commissioning.

### ***Strategic Energy Management***

ALTECH provides corporate energy strategy support including policy development, business analyses and climate change actions including addressing corporate-wide Kyoto targets and actions.

*Integrated  
Solutions for  
Business and the  
Environment*

For more information, contact ALTECH anytime at 1-800-323-4937

[www.altech-group.com](http://www.altech-group.com)



## Examples of Successful Project Performance:

- Saved \$490,000 per year in natural gas by implementing heat recovery from flue gas from a plant's gas turbines in a fine chemical plant (*6 month payback*).
- Saved \$780,000 per year by installing a gas combustion turbine to handle 100% of electricity and 40% of the steam requirements for a site. Upgrade allowed one steam boiler to be shut down and/or maintained on standby (*4 year payback; eliminated need for boiler upgrade/replacement*).
- Saved \$232,000 per year in a large boiler by trimming excess oxygen from 3.5% to 1.5% and preheating combustion air with waste heat from a vent stack (*5 month payback*).
- Saved \$70,000 per year in electrical power demand charges by rescheduling loads from refrigeration systems, cutting room equipment, and boilers (*1 month payback*).
- Saved \$32,000 per year in electrical power factor improvement in plastic injection molding equipment by installing power factor improvement capacitors (*13 month payback*).
- Saved \$27,000 per year in natural gas consumption by using hot ammonia exiting compressors to pre-heat boiler feed water and installation of a boiler flue gas economizer (*24 month payback*).
- Saved \$13,000 per year in electrical power consumption from the use of controllers on two 150 HP air compressors (*3 month payback*). Saved an additional \$19,000 per year by effectively balancing loads to each compressor for more efficient operation (*immediate*).
- Saved \$24,000 per year in refrigeration electrical power consumption by the refrigeration system by optimizing control of air flows in a meat processing operation (*immediate payback*). Eliminated the need for new compressors and refrigeration capacity to maintain compliance temperatures. Capital cost avoided was \$52,000.
- Saved \$62,000 per year in natural gas by eliminating a wet vent gas to the boiler and trimming excess oxygen to 1.5% in a chemical plant (*4 month payback*).
- Saved \$75,000 per year in natural gas consumption by rerouting air streams to an existing recovery drum to reclaim methanol rather than to an existing incineration system in a chemical plant.
- Saved \$36,000 per year in electricity by modifying cooling tower fans to allow variable speed control using temperature feedback (*8 month payback*).